UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/714,166	11/17/2000	Paul A. Medwick	1559A1	4576

24959 7590 11/02/2005

PPG INDUSTRIES INC
INTELLECTUAL PROPERTY DEPT
ONE PPG PLACE
PITTSBURGH, PA 15272

EXAMINER	
PIZIALI, ANDREW T	
ART UNIT	**PAPER NUMBER**
1771	

DATE MAILED: 11/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 09/714,166
Filing Date: November 17, 2000
Appellant(s): MEDWICK ET AL.

Jacques Miles
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 8/15/2005 appealing from the Office action mailed 12/1/2004.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The following are the related appeals, interferences, and judicial proceedings known to the examiner that may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal:

Pending Application 09/945,892, which is a Continuation-in-Part of the present application and which an Appeal Brief was filed on 6/27/2005 and an Examiner's Answer was mailed on 9/19/2005.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

No amendment after final has been filed.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is substantially correct. The changes are as follows: Regarding ground of rejection #5 (on page 6), claim 2 does not stand rejected under 35 U.S.C. 103(a) as being obvious over Arbab. Rather, claim 2 is cancelled.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

6,045,896	BOIRE	4-2000
5,821,001	ARBAB	10-1998
5,776,603	ZAGDOUN	7-1998
4,489,134	YUDENFRIEND	12-1984

(9) Grounds of Rejection

The following grounds of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 3-18, 20-25, 27-28 and 32-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 6,045,896 to Boire et al. (hereinafter referred to as Boire).

Regarding claims 1, 3-18, 20-25, 27-28 and 32-48, Boire disclose a solar control article comprising a substrate (1), a first dielectric antireflective multilayer (2a and 2b), a first infrared reflective layer (3), a first primer layer (4), a second dielectric antireflective multilayer (5a and5b), a second infrared reflective layer (6), a second primer layer (7), a third dielectric antireflective layer (8a) and a protective overcoat layer (8b). Boire discloses that the solar control article may possess a visible light transmittance of from 50 to 85% and a reflectance less than 20% (see entire document including Figure 1 and column 9, lines 15-23).

Boire discloses that the first dielectric antireflective layer, comprising layers 2a and 2b, may have a thickness between 55 and 450A (column 4, lines 54-63 and column 7, lines 19-52), the first infrared reflective layer may have a thickness of between 80 and 120A (Table 3), the primer layers may have a thickness of 5 to 15A (Table 3), the second dielectric antireflective layer, comprising layers 5a and 5b, may have a thickness of between 55 and 450A (column 4, lines 54-63 and column 7, lines 19-52), the second infrared reflective layer may have a thickness of between 80 and 120A (Table 3), the third dielectric antireflective layer may have a thickness of between 5 and 200A (column 7, lines 19-52) and the protective overcoat layer may have a thickness of 250A (Table 3).

Boire discloses that the second infrared reflective layer has a "most advantageous" thickness range of 80 to 120 angstroms (column 12, lines 36-55 including Table 3), but Boire fails to limit the thickness of the second infrared reflective layer to within this range. The examiner takes Official Notice that it is known in the art that increasing the thickness of an infrared reflective layer(s) will increase the reflectance while decreasing the transmittance of a coating. It would have been obvious to one having ordinary skill in the art at the time the invention was made to adjust the thickness of the second infrared layer of Boire, such as to between 159 and 257 angstroms, because some applications desire high reflectance/low transmittance coatings, as taught by Boire in column 9, lines 15-23, and because it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art.

Boire fails to specifically mention a shading coefficient, U value or LCS, but considering the substantially identical coated article disclosed by Boire, after adjustment of the second

infrared reflective layer thickness as taught above, compared to the claimed coated article, the coated article of Boire would inherently possess the claimed properties.

The Patent and Trademark Office can require applicants to prove that prior art products do not necessarily or inherently possess characteristics of claimed products where claimed and prior art products are identical or substantially identical, or are produced by identical or substantially identical processes; burden of proof is on applicants where rejection based on inherency under 35 U.S.C. § 102 or on prima facie obviousness under 35 U.S.C. § 103, jointly or alternatively, and Patent and Trademark Office's inability to manufacture products or to obtain and compare prior art products evidences fairness of this rejection, *In re Best, Bolton, and Shaw*, 195 USPQ 431 (CCPA 1977).

Regarding claims 4-7, 20-23, 25, 36, 39 and 45-47, Boire discloses that the dielectric antireflective layers may comprise multilayers and specifically discloses that one or more of the antireflective multilayers may comprise zinc oxide/zinc stannate (column 7, lines 19-52). Boire discloses that the first dielectric antireflective layer may have a thickness between 55 and 450A (column 4, lines 54-63 and column 7, lines 19-52), the second dielectric antireflective layer may have a thickness of between 55 and 450A (column 4, lines 54-63 and column 7, lines 19-52), and the third dielectric antireflective layer may have a thickness of between 5 and 200A (column 7, lines 19-52), but Boire does not specifically mention the thickness of each individual layer in an antireflective multilayer. It would have been obvious to one having ordinary skill in the art at the time the invention was made to adjust the thicknesses of the each layer in the antireflective multilayer of Boire, such as that the zinc oxide layer has a thickness of from 20 to 70 angstroms, because it is understood by one of ordinary skill in the art that the layer thicknesses determines

properties such as transmittance, emissivity, and color and because it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art.

Regarding claims 8 and 24, Boire discloses that the infrared reflective layers may comprise silver (column 3, lines 26-38).

Regarding claim 14, Boire discloses that the substrate may be glass (Examples).

Regarding claims 15, 28 and 40-42, Boire discloses that article may be used in an insulated glass unit with a polymeric film placed in the gap wherein the polymeric film is the coated article (column 8, line 47 through column 8, line 14).

Regarding claim 44, the protective coating of Boire is temporary because if one desired, it could be removed through an appropriate conventional treatment such as etching.

3. Claims 26 and 46-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boire as applied to claims 1, 3-18, 20-25, 27-28 and 32-48 above, and further in view of USPN 5,821,001 to Arbab et al. (hereinafter referred to as Arbab).

Regarding claim 26, Boire discloses that the primer layer may be niobium (Examples), but does not specifically mention titanium. Arbab discloses that the primer layer may include titanium, because titanium acts as a sacrificial layer to protect the functional layer (column 7, lines 5-11). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use titanium for the primer layers of Boire, as disclosed by Arbab, because a titanium layer is functionally equivalent to a niobium layer in that it is capable of protecting the functional layer.

Regarding claims 46-47, Boire discloses that the dielectric antireflective layers may comprise multilayers and specifically discloses that one or more of the antireflective multilayers

may comprise zinc oxide/zinc stannate (column 7, lines 19-52). Boire discloses that the first dielectric antireflective layer may have a thickness between 55 and 450A (column 4, lines 54-63 and column 7, lines 19-52), the second dielectric antireflective layer may have a thickness of between 55 and 450A (column 4, lines 54-63 and column 7, lines 19-52), and the third dielectric antireflective layer may have a thickness of between 5 and 200A (column 7, lines 19-52), but Boire does not specifically mention the thickness of each individual layer in an antireflective multilayer.

Arbab discloses that a dielectric antireflective multilayer may comprise zinc stannate/zinc oxide (column 10, lines 11-24) and further discloses that the zinc oxide layer may have a thickness of between 51A and 65A (column 19, lines 28-37 and column 11, lines 54-65). Boire is silent with regards to a specific thickness for the zinc oxide layer, therefore, it would have been necessary and thus obvious to look to the prior art for a thickness teaching. Arbab provides this conventional teaching showing that it is known in the art to deposit such a zinc oxide layer with a thickness ranging from 51A to 65A. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the zinc oxide layer of Boire with a thickness ranging from 51A to 65A motivated by the expectation of successfully practicing the invention of Boire.

It is the examiner's position that the article of the prior art is identical to or only slightly different than the claimed article prepared by the method of the claim 46. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a

product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985). The burden has been shifted to the applicant to show obvious difference between the claimed product and the prior art product. *In re Marosi*, 218 USPQ 289 (Fed. Cir. 1983). The prior art either anticipated or strongly suggested the claimed subject matter. It is noted that if the applicant intends to rely on Examples in the specification or in a submitted declaration to show non-obviousness, the applicant should clearly state how the Examples of the present invention are commensurate in scope with the claims and how the Comparative Examples are commensurate in scope with the prior art.

4. Claims 40-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boire as applied to claims 1, 3-18, 20-25, 27-28 and 32-48 above, and further in view of USPN 5,776,603 to Zagdoun et al. (hereinafter referred to as Zagdoun).

Zagdoun discloses that it is known in the art to mount a coated glass article between two substrates with a gas-filled space defined there between for reinforced thermal insulation (column 1, lines 30-42). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the glass article of Boire in a dual glass plate arrangement with a gas-filled space, as disclosed by Zagdoun, because the article would possess reinforced thermal insulation suitable for many applications.

5. Claim 44 is rejected under 35 U.S.C. 103(a) as being unpatentable over Boire as applied to claims 1, 3-18, 20-25, 27-28 and 32-48 above, and further in view of USPN 4,489,134 to Yudenfriend.

Yudenfriend discloses an energy control film that may be placed on an insulating glass window (see entire document including column 1, lines 7-14). Yudenfriend discloses that it is known in the art to place a removable protective layer on a window film to prevent the film from forming blemishes or scratches during manufacturing (column 7, lines 3-21). It would have been obvious to one having ordinary skill in the art at the time the invention was made to apply a removable protective film to the coated article of Boire, because the removable film would prevent the formation of blemishes and scratches during manufacturing or transportation of the article.

6. Claims 1, 3-18, 20-28, 32-39 and 43-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,821,001 to Arbab.

Regarding claims 1, 3-18, 20-28, 32-39 and 43-48, Arbab disclose a solar control article comprising a substrate, a first dielectric antireflective layer, a first infrared reflective layer, a first primer layer, a second dielectric antireflective layer, a second infrared reflective layer, a second primer layer, a third dielectric antireflective layer and a protective overcoat layer (see entire document including column 9, line 30 through column 10, line 10). The solar control article disclosed in the Examples of Arbab possesses a visible light transmittance of between 76.6 and 84%, but Arbab does not exclude the solar control article from possessing a lower transmittance of between about 50 to about 70%.

Arbab discloses that the first dielectric antireflective layer may have a thickness of 320A, the first infrared reflective layer may have a thickness of 90A, the primer layers may have a thickness of 8 to 50A, the second dielectric antireflective layer may have a thickness of 805A, the third dielectric antireflective layer may have a thickness of 270A and the protective overcoat

layer may have a thickness of 30A (column 7, lines 12-39 and column 19, line 28 through column 20, line 16).

Although Arbab discloses, in one of the Examples, that the second infrared reflective layer may have a thickness of 130 angstroms (Example 3), Arbab does not mention a thickness range for the second infrared reflective layer. Arbab does discloses that the second infrared reflective layer thickness may be varied to obtain the desired color and emissivity of the product, as well as manufacturing related issues (column 20, lines 24-31). It would have been obvious to one having ordinary skill in the art at the time the invention was made to adjust the thickness of the second infrared layer of Arbab, such as to between 159 and 257 angstroms, because some applications desire high reflectance/low transmittance coatings, and because it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art.

Arbab fails to specifically mention the claimed transmittance, shading coefficient, reflectance, U value or LCS, but considering the substantially identical coated article disclosed by Arbab, after adjustment of the second infrared reflective layer thickness as taught above, compared to the claimed coated article, the coated article of Arbab would inherently possess the claimed properties.

Regarding claims 4-7, 20-23, 25, 36, 39 and 45-46, Arbab discloses that the first dielectric antireflective layer may comprise zinc stannate/zinc oxide, the second dielectric layer may comprise zinc oxide/zinc stannate/zinc oxide, and the third dielectric antireflective layer may comprise zinc oxide/zinc stannate (column 10, lines 11-24).

Regarding claims 8 and 24, Arbab discloses that the infrared reflective layers may comprise silver (column 10, line 11-20).

Regarding claim 14, Arbab discloses that the substrate may be glass (column 10, lines 11-20).

Regarding claims 15, 28 and 47, Arbab discloses that article may be used in an insulated glass unit (column 13, line 61-62).

Regarding claims 17 and 35, the example given by Arbab produces an article with a substantially neutral color (column 20, lines 24-31).

Regarding claim 26, Arbab discloses that the primer layer may include titanium (column 10, lines 11-20).

Regarding claim 27, Arbab discloses that the protective overcoat layer may comprise titanium dioxide (column 20, lines 15-16).

Regarding claim 44, the protective coating of Arbab is temporary because if one desired, it could be removed through an appropriate conventional treatment such as etching.

Regarding claim 46, Arbab discloses that the first dielectric antireflective layer may comprise zinc stannate/zinc oxide (column 10, lines 11-24) and further discloses that the zinc oxide layer may have a thickness of 58±7A (column 19, lines 28-37 and column 11, lines 54-65).

It is the examiner's position that the article of Arbab is identical to or only slightly different than the claimed article prepared by the method of the claim 46. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985). The burden has been

shifted to the applicant to show obvious difference between the claimed product and the prior art product. *In re Marosi*, 218 USPQ 289 (Fed. Cir. 1983). Arbab either anticipated or strongly suggested the claimed subject matter. It is noted that if the applicant intends to rely on Examples in the specification or in a submitted declaration to show non-obviousness, the applicant should clearly state how the Examples of the present invention are commensurate in scope with the claims and how the Comparative Examples are commensurate in scope with the Arbab.

7. Claims 40-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arbab as applied to claims 1, 3-18, 20-28, 32-39 and 43-48 above, and further in view of USPN 5,776,603 to Zagdoun.

Arbab does not mention the specific IG unit layout, but Zagdoun discloses that it is known in the art to mount a coated glass article between two substrates with a gas-filled space defined there between for reinforced thermal insulation (column 1, lines 30-42). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the glass article of Arbab in a dual glass plate arrangement with a gas-filled space, because this article possesses reinforced thermal insulation suitable for many applications.

Considering the substantially identical coated article disclosed by Arbab in view of Zagdoun, compared to the claimed coated article, it appears that the coated article of Arbab in view of Zagdoun would inherently possess the claimed properties.

8. Claim 44 is rejected under 35 U.S.C. 103(a) as being unpatentable over Arbab as applied to claims 1, 3-18, 20-28, 32-39 and 43-48 above, and further in view of USPN 4,489,134 to Yudenfriend.

Yudenfriend discloses an energy control film that may be placed on an insulting glass window (see entire document including column 1, lines 7-14). Yudenfriend discloses that it is known in the art to place a removable protective layer on a window film to prevent the film from forming blemishes or scratches during manufacturing (column 7, lines 3-21). It would have been obvious to one having ordinary skill in the art at the time the invention was made to apply a removable protective film to the coated article of Arbab, because the removable film would prevent the formation of blemishes and scratches during manufacturing or transportation of the article.

(10) Response to Argument

Regarding claims 1, 3-18, 20-25, 27-28 and 32-48 being unpatentable over Boire:

The appellant asserts that Boire fails to teach or suggest the claimed third AR layer thickness because the third AR layer is made up of both layer 8a and layer 8b (see page 8, lines 12-13 of the Appeal Brief). The examiner respectfully disagrees. As clearly stated in the Final Office action mailed on 12/1/2004 (see page 2, last two lines), layer 8a corresponds to the claimed third AR layer while layer 8b corresponds to the later claimed (claims 13 and 27) protective overcoat layer. It is noted that the independent claims do not require the third AR layer to be a multilayer.

In the example (see Figure 1 and Table 3) Boire discloses that the zinc oxide layer 8a (corresponding to the claimed third AR layer) may have a thickness of 10 nm (100 angstroms), which reads on the claimed third AR layer thickness of from 60 to 273 angstroms. In addition to this clear teaching of the claimed third AR layer thickness, Boire discloses that this zinc oxide

layer may have a thickness that ranges from 5 to 25 nm (50 to 250 angstroms) (see column 4, lines 61-63). Boire clearly discloses the claimed third AR layer thickness.

The appellant asserts that Boire fails to teach or suggest the claimed second infrared reflective (IR) layer thickness. The examiner respectfully disagrees. Boire discloses that the second IR layer has a "most advantageous" thickness range of 80 to 120 angstroms (column 12, lines 36-55 including Table 3), but Boire fails to limit the thickness of the second infrared reflective layer to within this range. The examiner took Official Notice (and was never rebutted) that it is known in the art that increasing the thickness of an infrared reflective layer will increase the reflectance while decreasing the transmittance of a coating. Therefore, absent a showing of unexpected results it would have been obvious to one having ordinary skill in the art at the time the invention was made to adjust the thickness of the second infrared layer of Boire, such as to between 159 and 257 angstroms, because some applications desire high reflectance/low transmittance coatings, as taught by Boire (column 9, lines 15-23), and because it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art.

The appellant asserts that because Boire does not specifically disclose the claimed second IR layer thickness it is implausible to conclude that Boire discloses or teaches the "result-effective" capability of a second IR layer having the claimed thickness. The examiner respectfully disagrees. The appellant appears to be asserting that the article unexpectedly possesses the claimed visible light transmittance, shading coefficient, and/or reflectance, but the appellant fails to show, or attempt to show, how the properties are unexpected. Any differences between the claimed invention and the prior art may be expected to result in some differences in

properties. The issue is whether the properties differ to such an extent that the difference is really unexpected. In re Merck & Co., 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). The appellant has failed to show, or attempt to show, how the properties are unexpected.

Boire actually teaches away from the existence of unexpected results. The solar control article of Boire possesses a visible light transmittance of from 50% to 85% and a reflectance of less than 20% (see entire document including column 9, lines 15-23). These are within the claimed ranges and therefore obviously not unexpected properties. Regarding the claimed shading coefficient, the applicant asserts that the shading coefficient can be obtained by dividing the solar factor by 0.87 and that the solar factor is the ratio of total solar energy entering through the glass to the incident solar energy. As described by the appellant, the solar factor is simply a function of the transmittance and reflectance of the glass. Considering that Boire discloses that the solar control article may possess a visible light transmittance of from 50% to 85% and a reflectance less than 20%, which are within the transmittance and reflectance ranges claimed by the appellant, it appears that the coated article of Boire expectedly possesses the claimed shading coefficient.

As mentioned in the Examiner's Answer of related application 09/945,892, which is a Continuation-in-Part of the present application, the selection of film thicknesses to achieve optical features and properties of glass coated articles can be readily determined empirically by those skilled in the art or, for example, by employing a commercially available optics prediction software program. Typically, a graphic presentation of the optical properties of a given glazing article sorted by individual layer thickness and refractive index can be used to determine the regions of optimum film stack design.

Regarding claims 26 and 46-47 being unpatentable over Boire in view of Arbab:

The appellant relies upon the arguments set forth above.

Regarding claims 40-41 being unpatentable over Boire in view of Zagdoun:

The appellant relies upon the arguments set forth above.

Regarding claim 44 being unpatentable over Boire in view of Yudenfriend:

The appellant relies upon the arguments set forth above.

Regarding claims 1, 3-18, 20-28, 32-39 and 43-48 being unpatentable over Arbab:

The appellant asserts that Arbab fails to teach or suggest the claimed third AR layer thickness because the third AR layer of Arbab has a thicker third AR layer thickness. The examiner respectfully disagrees. The appellant claims that the third AR layer thickness may be from 60 to 273 angstroms. Arbab discloses that the third AR layer may have a thickness of 270 angstroms (column 20, lines 10-14). It is clear that 270 angstroms is within the claimed range.

The appellant asserts that Arbab fails to teach or suggest the claimed second IR layer thickness. The examiner respectfully disagrees. Although Arbab discloses, in one of the Examples, that the second IR layer may have a thickness of 130 angstroms (Example 3), Arbab does not mention a thickness range for the second infrared reflective layer. Arbab does discloses that the second infrared reflective layer thickness may be varied to obtain the desired color and emissivity of the product, as well as manufacturing related issues (column 20, lines 24-31). Absent a showing of unexpected results, it would have been obvious to one having ordinary skill in the art at the time the invention was made to adjust the thickness of the second IR layer of Arbab, such as to between 159 and 257 angstroms, because different applications desire different

reflectance, transmittance, colors, and/or emissivities, and because it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art.

The appellant asserts that because Arbab does not specifically disclose the claimed second IR layer thickness it is implausible to conclude that Arbab discloses or teaches the "result-effective" capability of a second IR layer having the claimed thickness. The examiner respectfully disagrees. The appellant appears to be asserting that the article unexpectedly possesses the claimed visible light transmittance, shading coefficient, and/or reflectance, but the appellant fails to show, or attempt to show, how the properties are unexpected.

Regarding claims 40-41 being unpatentable over Arbab in view of Zagdoun:

The appellant relies upon the arguments set forth above.

Regarding claim 44 being unpatentable over Arbab in view of Yudenfriend:

The appellant relies upon the arguments set forth above.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Andrew Piziali

10/20/05

ANDREW T. PIZIALI
PATENT EXAMINER

Conferees:

Terrel Morris – FM

TERREL MORRIS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700

Carol Chaney

CAROL CHANEY
SUPERVISORY PATENT EXAMINER